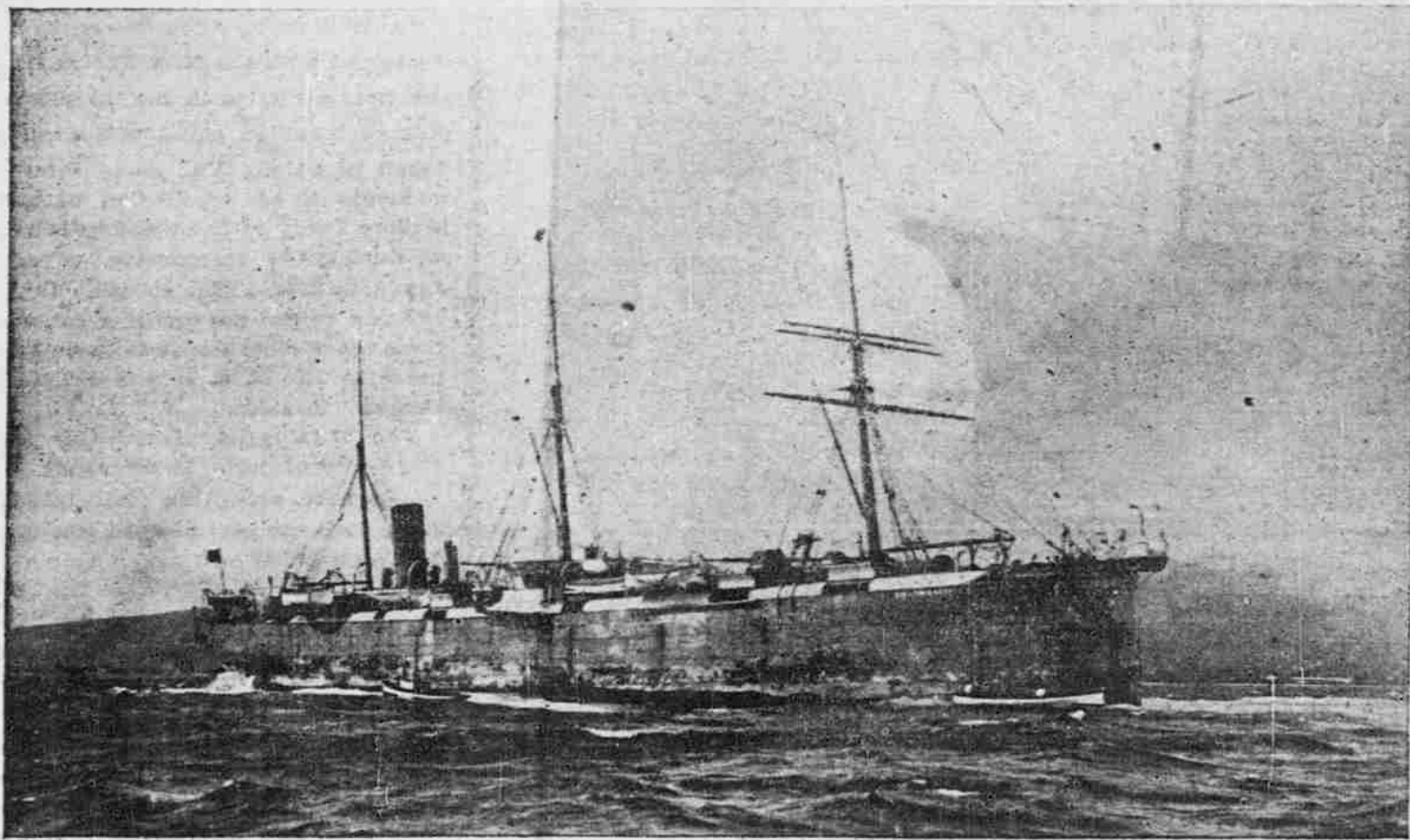
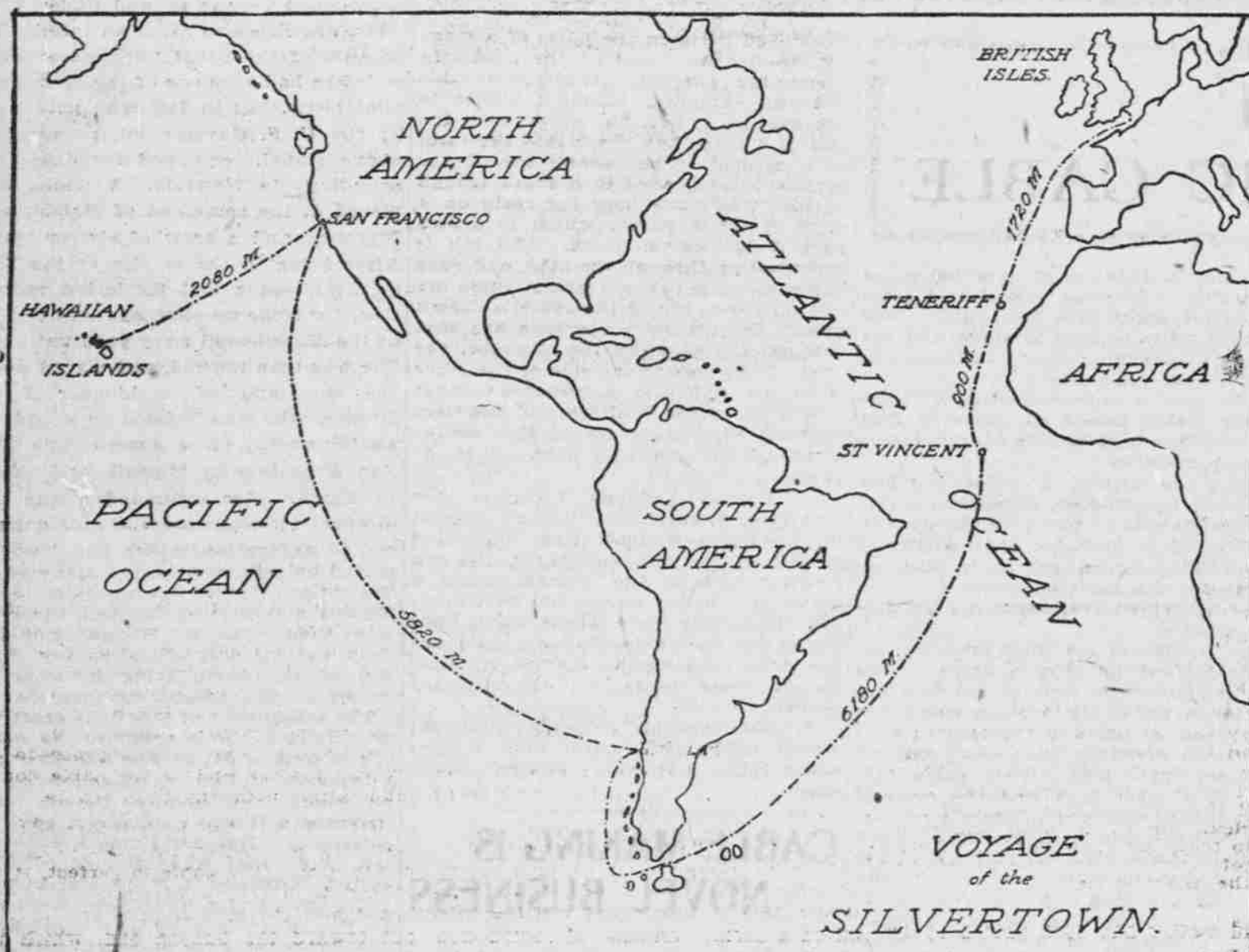


# 16,000 MILE VOYAGE OF THE S. S. SILVERTOWN



THE CABLESHIP SILVERTOWN

(Photo by Rice &amp; Perkins.)

VOYAGE  
of the  
SILVERTOWN.

The dotted line in the above map shows the route taken by the cable-ship Silvertown in her recent cable laying and history making voyage, over 16,000 odd nautical miles from the British Isles to Hawaii.

There is a story going the rounds that when told to plan a cable ship the Silvertown company's engineer drew three circles on a sheet of paper, giving their dimensions, and then handed it to the shipbuilders and told them to construct a modern vessel around the tanks. At any rate the appearance of the vessel today would indicate that this story has at least a semblance of truth in it. Constructed to carry an immense amount of cable in her three tanks, to stand heavy weather, and to go at a fast rate of speed without consuming much coal, the vessel has certainly been a success.

The cable craft left Portland, on the English coast, on September 23rd, 1902. She steamed 1720 miles to Tenerife and then another 500 miles to St. Vincent, Cape de Verde Islands, where she made a short stay to secure coal and fresh water. Then she made her longest run between coaling ports, a distance of 6,180 miles from Tenerife to Coronel, Chili and arriving there covered the distance to San Francisco quickly. Her voyage from San Francisco to this port is fully depicted elsewhere.

When leaving the English coast the Silvertown had on board 2,413 nautical miles of cable, weighing 4,807 tons, grappling apparatus, stores etc., weighing 413 tons, deck machinery and buoys, weighing 187 tons, and 1,100 tons of the best Welsh coal for consumption during the voyage, making in all a total cargo of 6,597 tons. The value of the vessel, her cargo, and the loss which would have resulted from disaster, made the

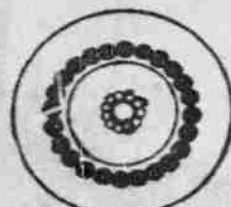
vessel a tremendous commercial risk during her long voyage around angry Cape Horn and her trip excited great interests among commercial men.

The crew of the ship and the cable officials made about a hundred and fifty souls on board. Throughout the voyage, constant tests of the cable were made. A man sitting in the testing room of the vessel could send a message to himself through over two thousand miles of cable lying in the same vessel's hold.

The Silvertown arrived at San Francisco on December 4th, took on coal and supplies, laid the shore end of the cable at that point, and left for Honolulu at two o'clock on the morning of the fifteenth. She arrived off the Islands on Christmas Day and at about two-thirty o'clock on the morning of the 26th of December buoyed the cable during a heavy gale at a point about 35 miles from Honolulu.

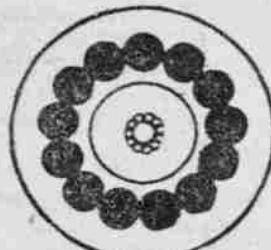
## HOW CABLES ARE MADE

A submarine cable consists first of a core, which comprises the conductor, made of a strand of copper wires, and the insulating covering, generally made of gutta percha, but occasionally of



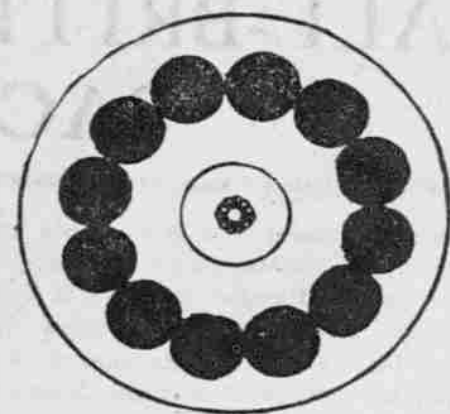
No. 1. Deep-sea Cable, for greatest depth.

India rubber, to prevent the escape of electricity. Then comes a layer of tanned jute yarn laid over the gutta percha to protect it from the sheathing of steel wires, over which come again



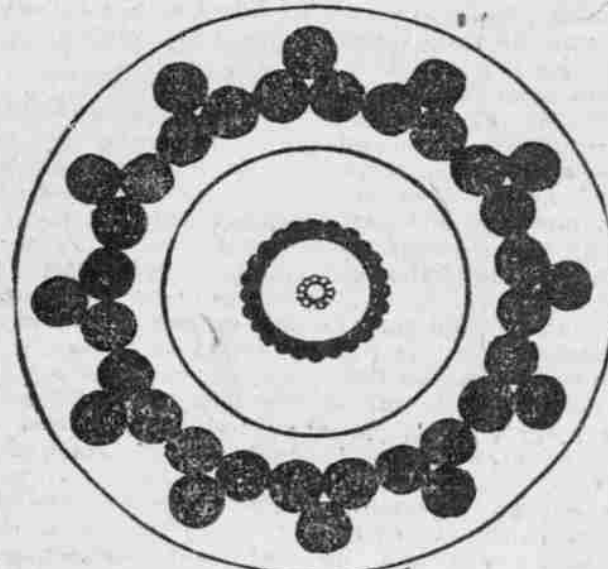
No. 2. Deep-sea Cable, for lesser depth.

jute yarn and a bituminous compound. The sheathing varies in type, with the depth of water in which the cable is to be laid. This sheathing may consist of as many as seven types, increasing in



No. 3. Intermediate Cable.

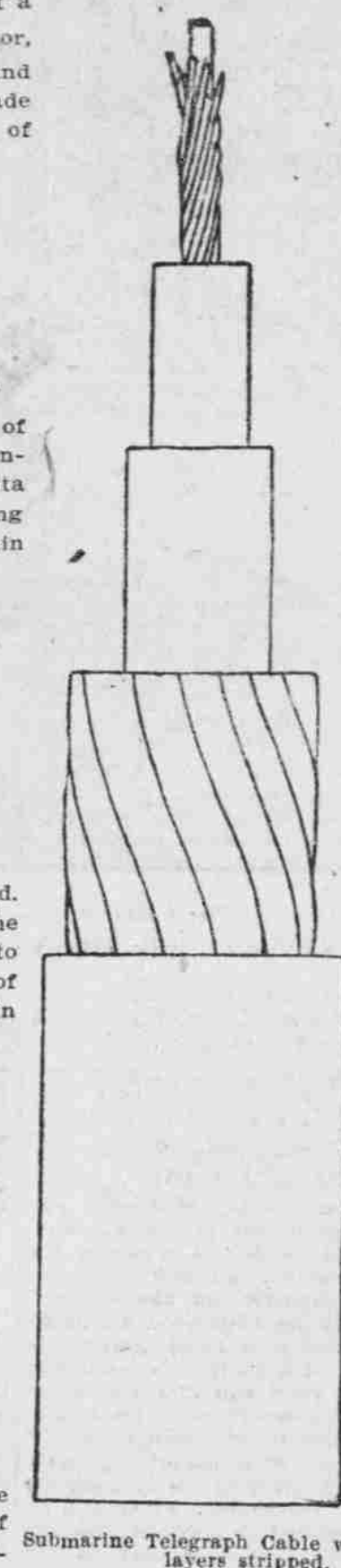
strength and protective power as the shallow water is approached. Four of these are shown in the sections illus-



No. 4. Shore-end Cable.

trated. No. 1 is the deep-sea type, with a sheathing of many small steel wires; then through the several intermediate types 2 and 3 the sheathing wires become gradually larger, and finally, at the shore end, type 4, the deep sea sheathed cable is again sheathed with strands, each made up of three steel wires. It will be noticed, however, that the core is the same throughout.

The copper wires for the conductor are twisted up together or stranded; they are then passed through the covering machine, by which the gutta percha is squeezed round the conductor in a continuous envelope touching it throughout. The core is then served



Submarine Telegraph Cable with various layers stripped.

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## CABLE PROGRESS IN THE PACIFIC

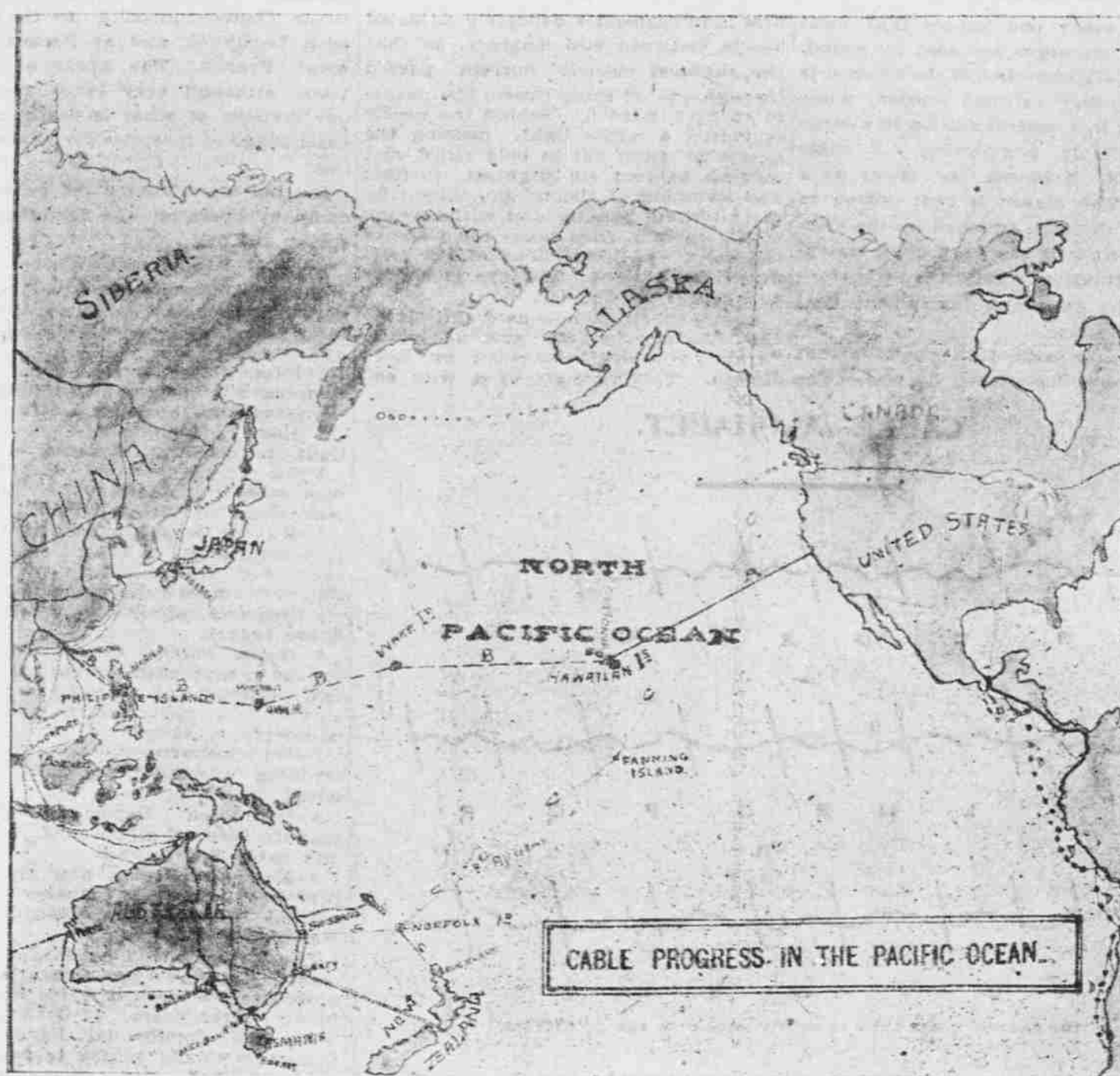
The accompanying map shows progress of cable development in the Pacific Ocean. The dotted line from Victoria to Queensland, Australia and to New Zealand, via Fanning Island, the Fiji Group, and Norfolk Island shows the new British Pacific cable. The heavy straight line from San Francisco to Honolulu shows the new Commercial Pacific Cable and the heavy dotted line from Hawaii to Hongkong, via Wake Island, Guam, and Manila shows the route over which the American cable will be extended during this year.

The lines labeled "D" are the cables of the Central and South American Telegraph Company which owns fifteen cables of a total length of 7,500 nautical miles. The first work on these lines was done in 1876.

From Brisbane, Queensland, there is a cable line to the French colony of New Caledonia. This is 800 miles in length and has been in operation for ten years.

The small dotted lines connecting Vladivostok, Japan, the main Chinese ports, Singapore, Borneo, Java, and the Northern portion of Australia were laid in 1871 and are a portion of the Eastern Extension, Australia, and China Telegraph Company's extensive Eastern system of cables.

From Port Darwin in the northern part of Australia an overland telegraph line connects with Adelaide in the south and from this point telegraph lines connect with Sydney, Brisbane, and Melbourne, a cable line being laid from the latter point to Tasmania, and from Sydney there is a cable to Wellington, New Zealand. Early last year a cable line connecting Adelaide, Australia, with Perth, Western Australia, was constructed and this line extends to South Africa. There are 48,783 miles of telegraph lines in Australia.



CABLE PROGRESS IN THE PACIFIC OCEAN.

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